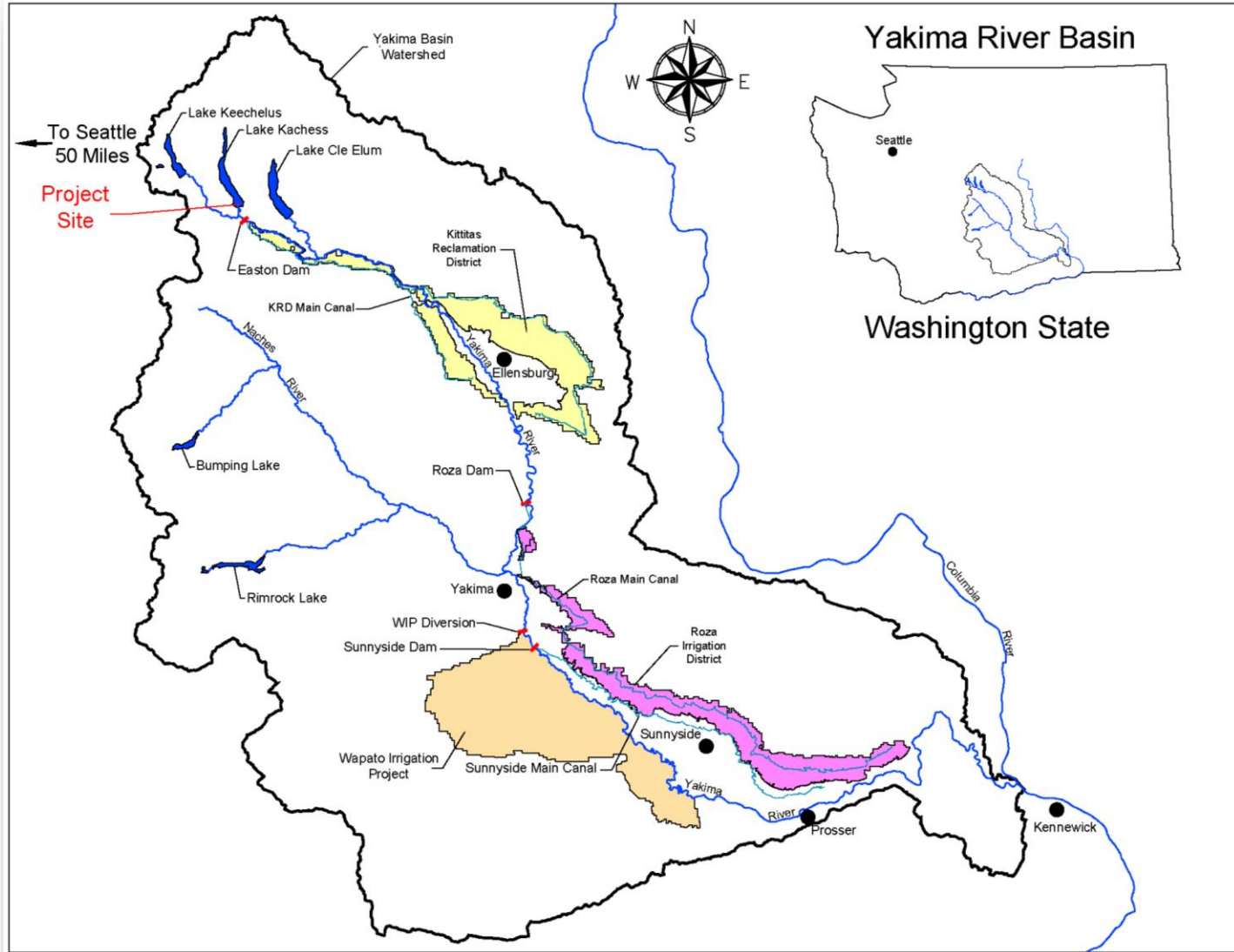


# Water Supply & Conservation

- Forest and floodplain management
- Conservation & Efficiency in Canal Systems:
  - ✓ Piping
  - ✓ Sealing concrete
  - ✓ Lining canals
  - ✓ Re-regulation Reservoirs
  - ✓ Pumping back seepage water
- On-Farm:
  - ✓ Sprinklers
  - ✓ Drip
  - ✓ Ponds
  - ✓ Shade cloth



# Roza Irrigation District Location



# Roza Irrigation District Overview

- ✓ 72,000 irrigated acres over 95 miles w/ 450 miles of canals.
- ✓ 80% high value perennial crops (tree fruit, hops, wine and juice grapes)
- ✓ 20% annual crops (silage corn, pasture, row crops) which support a large dairy industry.
- ✓ Total crop value of \$1.5 billion +/- on mostly 2<sup>nd</sup> and 3<sup>rd</sup> generation family farms.
- ✓ 47% water supply in 2015....**\$77M in crop losses**
- ✓ Supply ranged from **35%** to **68%** in five prior drought years since 1992







# On Farm Irrigation Efficiencies

- ✓ Drip
  - ✓ Undertree micro-spray
  - ✓ Center Pivot & Linear
  - ✓ Wheel lines
  - ✓ Hand lines
  - ✓ Rill (furrow)
- 
- ✓ Ponds
  - ✓ Shade cloth
  - ✓ Cover grasses



# Undertree Micro-Spray



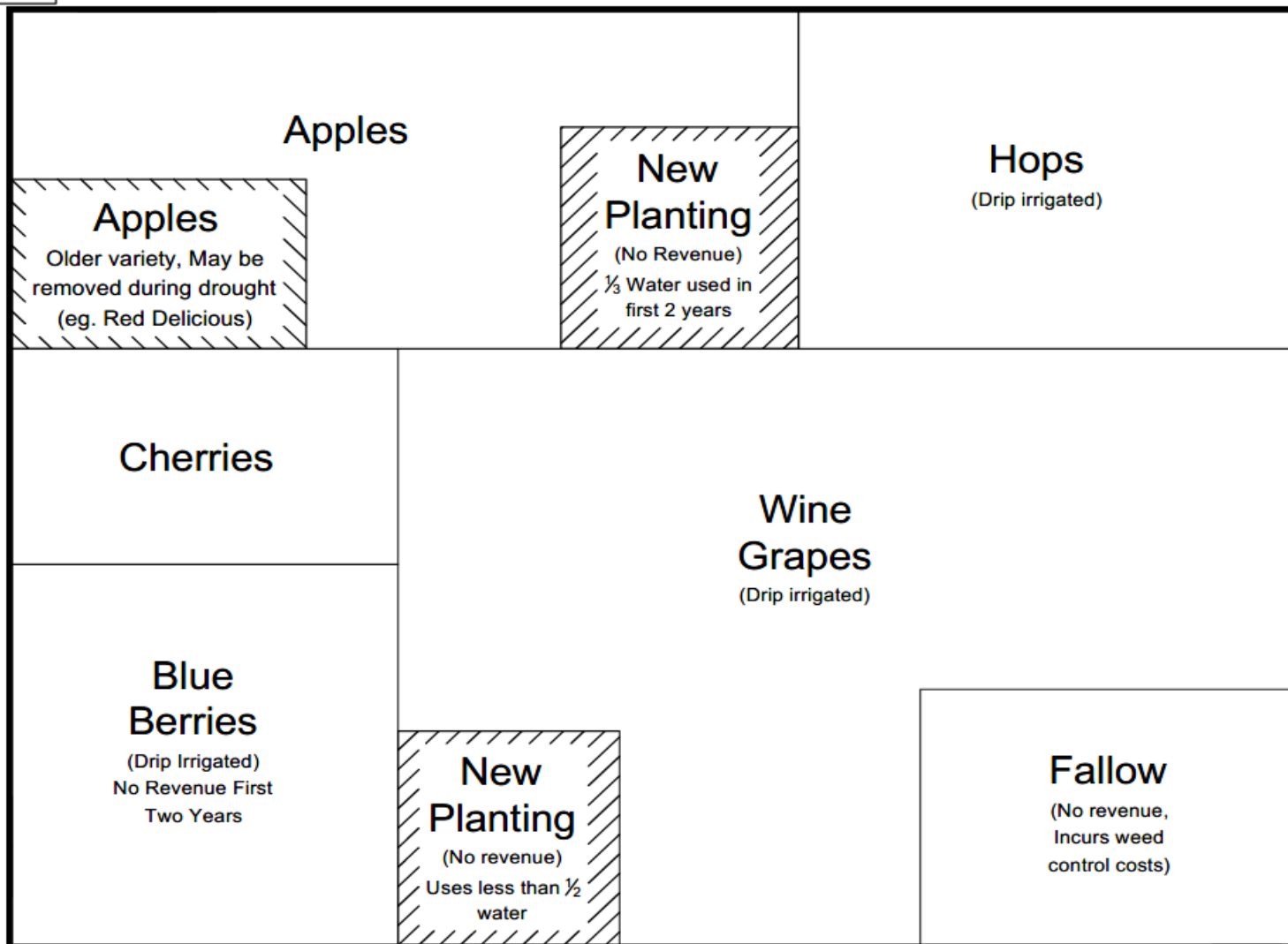


# Linear Irrigation System





## Example Roza Farm



Some farms also include pasture and/or row crops while some grow fewer crops























## **Roza Water Conservation Projects Since 1983**

- ✓ \$85 Million in total improvement costs (\$53M+ in Roza funds).
- ✓ 35,000+ acre feet conserved annually, via:
  - 341 miles of canal piped and metered (71% of the District)
  - 10 miles of canal lined or sealed
  - 31 automated check structures (to operate the canal at lower flows)
  - 3 Re-regulation reservoirs (to capture operational spills)
- ✓ \$30+ million in Roza funded improvements over the next 14 years to complete the final 124 miles of the lateral canal enclosure program to conserve nearly 6,000 additional acre feet.
- ✓ \$100M+ of grower funded on-farm efficiency and conservation measures (ponds, drip lines, sprinkler conversions, etc.)



























# Roza Main Canal pumpbacks to recover canal seepage



# Takeaways



- ✓ Canals were designed to deliver water 24 hours a day;
- ✓ Be aware of the effect labor laws can have on the work week and water usage as farming evolves;
- ✓ Upstream conservation can reduce supply for downstream diverters.



